Amendments to the Claims

1.   (Original) A method of designing a first antenna system in a communication system, the method comprising:

retrieving demographic information of customers from a first database system;

determining communication traffic based on the demographic information;

retrieving parameters of a second antenna system from a second database system;

determining an antenna system configuration for the first antenna system based on the communication traffic and the parameters of the second antenna system; and

determining a performance of the first antenna system in response to determining the antenna system configuration for the first antenna system.

2.   (Original) The method of claim 1 wherein the steps of determining the antenna system configuration for the first antenna system and determining the performance of the first antenna system are repeated until the first antenna system is optimized based on a maximum number of users, a geographic location, and government restrictions.

3.   (Original) The method of claim 1 further comprising generating an antenna output based on the antenna system configuration and the performance of the first antenna system.

4.   (Original) The method of claim 1 wherein the demographic information comprises age and income of the customers.

5.   (Original) The method of claim 1 wherein the demographic information comprises an indication of whether the customer is residential or business.

6.   (Original) The method of claim 1 wherein the parameters comprise a location of the second antenna system.

7.   (Original) The method of claim 1 wherein the parameters comprise property rights of the second antenna system.

8.   (Original) The method of claim 1 wherein the parameters comprise frequency and power of the second antenna system.

9.   (Original) The method of claim 1 wherein determining the antenna system configuration for the first antenna system comprises:
    retrieving access road information from a third database system;
    retrieving topography information from a fourth database system;
    retrieving land usage information from a fifth database system; and
    retrieving image information from a sixth database system.

10.   (Original) The method of claim 1 wherein the first antenna system comprises a fixed wireless communication system.

11.   (Original) The method of claim 10 wherein the first antenna system comprises a Multichannel Multipoint Distribution System (MMDS).

12.   (Original) The method of claim 1 wherein the second antenna system comprises a cellular antenna system.

13.   (Original) The method of claim 1 wherein determining the antenna system configuration further comprises determining a location of the first antenna system.

14.   (Original) The method of claim 1 further comprising generating a submission for government licenses for location, frequency, and power.

15.   (Original) The method of claim 1 wherein determining the communication traffic further comprises calculating a weighted average throughput.

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16.   (Original) The method of claim 1 wherein determining the communication traffic further comprises determining traffic weighting patterns based on penetration rates and data throughputs.

17.   (Previously Presented) The method of claim 1 wherein determining the performance of the first antenna system further comprises executing a radio frequency analysis based on the first antenna system.

18.   (Previously Presented) The method of claim 1 wherein determining the performance of the first antenna system further comprises executing a traffic simulation based on the first antenna system.

19.   (Previously Presented) The method of claim 1 wherein determining the performance of the first antenna system further comprises executing an interference analysis based on the first antenna system.

20.   (Original) A design system for designing a first antenna system, the design system comprising:

    a processor system configured to retrieve demographic information of customers from a first database system, determine communication traffic based on the demographic information, retrieve parameters of a second antenna system from a second database system, determine an antenna system configuration for the first antenna system based on the communication traffic and the parameters of the second antenna system, and determine a performance of the first antenna system in response to determining the antenna system configuration for the first antenna system; and

    an interface connected to the processor and configured to transfer the demographic information from the first database system to the processor and transfer the parameters of the second antenna system from the second database system.

21.   (Original) The design system of claim 20 wherein the processor system is configured to repeatedly determine the antenna system configuration for the first antenna system

and determine the performance of the first antenna system until the first antenna system is optimized based on a maximum number of users, a geographic location, and government restrictions.

22.   (Original) The design system of claim 20 wherein the processor system is configured to generate an antenna output based on the antenna system configuration and the performance of the first antenna system.

23.   (Original) The design system of claim 20 wherein the demographic information comprises age and income of the customers.

24.   (Original) The design system of claim 20 wherein the demographic information comprises an indication of whether the customer is residential or business.

25.   (Original) The design system of claim 20 wherein the parameters comprise a location of the second antenna system.

26.   (Original) The design system of claim 20 wherein the parameters comprise property rights of the second antenna system.

27.   (Original) The design system of claim 20 wherein the parameters comprise frequency and power of the second antenna system.

28.   (Original) The design system of claim 20 wherein the processor system is configured to retrieve access road information from a third database system, retrieve topography information from a fourth database system, retrieve land usage information from a fifth database system, and retrieve image information from a sixth database system.

29.   (Original) The design system of claim 20 wherein the first antenna system comprises a fixed wireless communication system.

30.   (Original) The design system of claim 29 wherein the first antenna system comprises a Multichannel Multipoint Distribution System (MMDS).

31.   (Original) The design system of claim 20 wherein the second antenna system comprises a cellular antenna system.

32.   (Original) The design system of claim 20 wherein the processor system is configured to determine a location of the first antenna system.

33.   (Original) The design system of claim 20 wherein the processor system is configured to generate a submission for government licenses for location, frequency, and power.

34.   (Original) The design system of claim 20 wherein the processor system is configured to calculate a weighted average throughput.

35.   (Original) The design system of claim 20 wherein the processor system is configured to determine traffic weighting patterns based on penetration rates and data throughputs.

36.   (Original) The design system of claim 20 wherein the processor system is configured to execute a radio frequency analysis based on the first antenna system.

37.   (Previously Presented) The design system of claim 20 wherein the processor system is configured to execute a traffic simulation based on the first antenna system.

38.   (Original) The design system of claim 20 wherein the processor system is configured to execute an interference analysis based on the first antenna system.

39.   (Original) A software product for designing a first antenna system in a communication system, the software product comprising:
    design software operational when executed by a processor to direct the processor to

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retrieve demographic information of customers from a first database system, determine communication traffic based on the demographic information, retrieve parameters of a second antenna system from a second database system, determine an antenna system configuration for the first antenna system based on the communication traffic and the parameters of the second antenna system, and determine a performance of the first antenna system in response to determining the antenna system configuration for the first antenna system; and

a storage medium configured to store the design software.

40.   (Original) The software product of claim 39 wherein the design software is operational when executed by the processor to direct the processor to repeatedly determine the antenna system configuration for the first antenna system and determine the performance of the first antenna system until the first antenna system is optimized based on a maximum number of users, a geographic location, and government restrictions.

41.   (Original) The software product of claim 39 wherein the design software is operational when executed by the processor to direct the processor to generate an antenna output based on the antenna system configuration and the performance of the first antenna system.

42.   (Original) The software product of claim 39 wherein the demographic information comprises age and income of the customers.

43.   (Original) The software product of claim 39 wherein the demographic information comprises an indication of whether the customer is residential or business.

44.   (Original) The software product of claim 39 wherein the parameters comprise a location of the second antenna system.

45.   (Original) The software product of claim 39 wherein the parameters comprise property rights of the second antenna system.

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46.   (Original) The software product of claim 39 wherein the parameters comprise frequency and power of the second antenna system.

47.   (Original) The software product of claim 39 wherein the design software is operational when executed by the processor to direct the processor to retrieve access road information from a third database system, retrieve topography information from a fourth database system, retrieve land usage information from a fifth database system, and retrieve image information from a sixth database system.

48.   (Original) The software product of claim 39 wherein the first antenna system comprises a fixed wireless communication system.

49.   (Original) The software product of claim 48 wherein the first antenna system comprises a Multichannel Multipoint Distribution System (MMDS).

50.   (Original) The software product of claim 39 wherein the second antenna system comprises a cellular antenna system.

51.   (Original) The software product of claim 39 wherein the design software is operational when executed by the processor to direct the processor to determine a location of the first antenna system.

52.   (Original) The software product of claim 39 wherein the design software is operational when executed by the processor to direct the processor to generate a submission for government licenses for location, frequency, and power.

53.   (Original) The software product of claim 39 wherein the design software is operational when executed by the processor to direct the processor to calculate a weighted average throughput.

54.   (Original) The software product of claim 39 wherein the design software is operational when executed by the processor to direct the processor to determine traffic weighting patterns based on penetration rates and data throughputs.

55.   (Original) The software product of claim 39 wherein the design software is operational when executed by the processor to direct the processor to execute a radio frequency analysis based on the first antenna system.

56.   (Original) The software product of claim 39 wherein the design software is operational when executed by the processor to direct the processor to execute a traffic simulation based on the first antenna system.

57.   (Original) The software product of claim 39 wherein the design software is operational when executed by the processor to direct the processor to execute an interference analysis based on the first antenna system.

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